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July 31, 1997

EX PARTE OR LATE FILED

Mr. Kyle Dixon
Policy and program Planning Division
Common Carrier Bureau
Federal Communications Commission
1919 M Street, N.W., Room 544
Washington, D.C. 20554

DOCKET FILE COPY ORIGINAL

Re: **EX PARTE**
North American Numbering Council Recommendations Regarding
Local Number Portability Administration -- CC Docket No. 95-116

Dear Mr. Dixon:

By this letter, Lockheed Martin IMS ("Lockheed Martin") responds to your recent inquiry regarding Lockheed Martin's plan to establish its regional number portability administration centers ("NPAC") at two centralized locations. Specifically, you asked about the functional difference between Lockheed Martin's planned NPAC platform and a single national database.

As initially conceived, Lockheed Martin planned to implement individual regional databases located within each of the number portability regions for which it was selected as the administrator. During the selection and negotiation process conducted by the various limited liability companies ("LLC") established for number portability purposes, however, Lockheed Martin was requested to develop a reduced price option to provide service to multiple regions from a centralized location. The LLCs subsequently adopted this option. As a result, Lockheed Martin will provide service to the four Lockheed Martin number portability regions from the Chicago service center with backup services out of Tarrytown, New York. It is our understanding that the NPAC/SMS vendor serving the other three number portability regions also plans to provide service from a centralized facility.

Lockheed Martin will provide service using a distributed system of computers with multiple fault-tolerant computer servers. The main Chicago site is backed up by an identical system in Tarrytown. Within this distributed system, each of the four separate regional NPAC databases is stored on a shared set of servers, but is maintained within separate database partitions. Consequently, database storage and operations for each of

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the four regions are partitioned and logically separated from each other even though they are served by a common set of systems. This system design is in direct contrast to the concept of a single national database which operates on a single mainframe computer. In the national database approach, all regions would be served out of a single database partition such as that currently used for toll-free number administration services.

In its First Report and Order in this proceeding, the Commission found that the public interest would best be served by a regional database architecture because it would relieve carriers from the need to deploy multiple databases over various regions, as well as reduce the likelihood that a single database would be overwhelmed by the amount of data that would have to be processed.[1] Lockheed Martin supports the Commission's assessment regarding a national database implementation. Based upon its participation in the local number portability selection process, as well as conversations with LLC members, the NANC and the Commission, Lockheed Martin has identified the following primary issues regarding a national database implementation: (a) potential database loss in case of a facilities disaster; (b) reliability issues resulting from the operation of a single large database on a single mainframe computer; (c) scalability questions if a single mainframe system must be expanded to meet increasing administration needs; and (d) cost. Lockheed Martin's architecture and implementation plans fully address each of these issues.

Upon examination, Lockheed Martin concluded that each issue identified above assumed the use of a single monolithic computer system. Lockheed Martin has addressed reliability, scalability, and cost issues through the use of fault-tolerant computers in a distributed client-server architecture. This system design aggregates the capabilities of all systems on the network for optimal system utilization. In addition, the system can easily be expanded in a modular fashion by simply adding additional computer systems to the network. Thus, the scalability of the system is not limited by the capacity constraints of any individual computer system. In addition, the implementation of a duplicate back-up system connected via redundant communications facilities that is updated simultaneously with any update of the primary NPAC system, fully addresses any concerns about database loss. Thus, Lockheed Martin's "virtual NPAC/SMS" approach combines the reliability advantages of a regional database approach with the cost savings advantage of a single national database.

Two copies of this letter have been submitted to the Secretary of the Commission for inclusion in the public record, pursuant to § 1.1206(a)(1) of the

[1] *Telephone Number Portability*, 11 FCC Rcd 8352, 8399-8400 (1996).

Commission's rules. Please contact me at (202) 887-1510 with any further comments or questions.

Very truly yours,

Cheryl A. Tritt
Counsel for Lockheed Martin IMS

cc: Acting Secretary, William F. Caton
Carol Mattey
Steven Teplitz